

DESCRIPTION

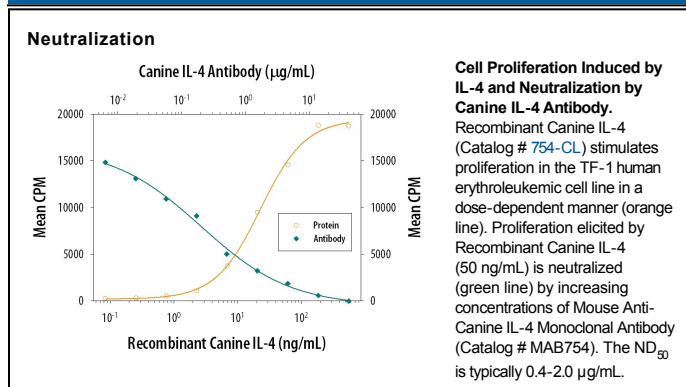
Species Reactivity	Canine
Specificity	Detects canine IL-4 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human (h) IL-4, recombinant mouse IL-4, recombinant rat IL-4, recombinant porcine IL-4, recombinant feline IL-4, or rhIL-13 is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 140429
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant canine IL-4 His25-His132 Accession # O77762
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

Neutralization	Measured by its ability to neutralize IL-4-induced proliferation in the TF-1 human erythroleukemic cell line. Kitamura, T. <i>et al.</i> (1989) <i>J. Cell Physiol.</i> 140 :323. The Neutralization Dose (ND ₅₀) is typically 0.4-2.0 µg/mL in the presence of 50 ng/mL Recombinant Canine IL-4.
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DATA



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Interleukin-4 (IL-4), also known as B cell-stimulatory factor-1, is a monomeric, approximately 13 kDa-18 kDa Th2 cytokine that shows pleiotropic effects during immune responses (1-3). It is a glycosylated polypeptide that contains three intrachain disulfide bridges and adopts a bundled four α -helix structure (5). Canine IL-4 is synthesized with a 24 amino acid (aa) signal sequence. Mature canine IL-4 shares 81%, 61%, 46%, 38%, and 37% aa sequence identity with feline, bovine, human, mouse, and rat IL-4, respectively. IL-4 exerts its effects through two receptor complexes (6, 7). The type I receptor, which is expressed on hematopoietic cells, is a heterodimer of the ligand binding IL-4 R α and the common γ chain (a shared subunit of the receptors for IL-2, -7, -9, -15, and -21). The type II receptor on non-hematopoietic cells consists of IL-4 R α and IL-13 R α 1. The type II receptor also transduces IL-13 mediated signals. IL-4 is primarily expressed by Th2-biased CD4⁺ T cells, mast cells, basophils, and eosinophils (1, 2). It promotes cell proliferation, survival, and immunoglobulin class switch to IgE in B cells, acquisition of the Th2 phenotype by naive CD4⁺ T cells, priming and chemotaxis of mast cells, eosinophils, and basophils, and the proliferation and activation of epithelial cells (8-11). IL-4 plays a dominant role in the development of allergic inflammation and asthma (10, 12).

References:

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